

Appl. No. 10/706,838  
Amdt. dated 04/24/2006  
Reply to Office action of 04/05/2006

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

- 1.(currently amended) A method to increase GMR signal strength, comprising:  
providing a GMR stack having, on it's a top surface of the GMR stack, a bias cancellation layer located between opposing hard magnetic layers;  
~~removing portions of from said bias cancellation layer, said removed portions that extend[ing] inwards a distance from said hard magnetic layers: and~~  
~~covering only said magnetic layers and removed portions all areas from which said portions were removed with a layer of insulation whereby current through said device is constrained to flow through it's a central area of said device.~~
- 2.(original) The method described in claim 1 wherein said bias cancellation layer further comprises an antiferromagnetic layer on an exchange dilution layer.
- 3.(currently amended) The method described in claim 1 wherein said distance that said areas that formerly contained said removed portions extend inwards from said hard magnetic layers is between about 0.01 and 0.2 microns.
- 4.(original) The method described in claim 1 wherein said hard magnetic layer is selected from the group consisting of CoCrPt, CoCr, CoCrTa, CoCrPtTa, and CoCrNi.
- 5.(original) The method described in claim 1 wherein said bias cancellation layer is

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deposited to a thickness between about 30 and 150 Angstroms.

6.(currently amended) The method described in claim 1 wherein said GMR stack has a signal ~~strength of whose magnitude changes by~~ between about 1 and 20 % whenever a free layer of said GMR stack reverses magnetization direction.

7 - 32. Canceled.